

Amendments to the Specification:

Please replace the paragraph beginning at page 1, line ⁸7 with the following rewritten paragraph: mjd
4/3/07

Electrical overstress transients ("EOS transients") produce high electric fields and high peak powers that can render circuits or the highly sensitive electrical components in the circuits, temporarily or permanently non-functional. EOS transients can include transient voltages or current conditions capable of interrupting circuit operation or destroying the circuit outright. EOS transients may arise, for example, from an electromagnetic pulse, an electrostatic discharge, lightning, a build-up of static electricity or be induced by the operation of other electronic or electrical components. An EOS transient can rise to its maximum amplitude in subnanosecond to microsecond times and have repeating amplitude peaks.

Please replace the paragraph beginning at page 2, line 5 with the following rewritten paragraph:

Circuit components utilizing EOS materials can shunt a portion of the excessive voltage or current due to the EOS transient to ground, protecting the electrical circuit and its components. The major portion of the threat transient, however, is reflected back towards the source of the threat. The reflected wave is either attenuated by the source, radiated away, or re-directed back to the surge protection device which responds with each return pulse until the threat energy is reduced to safe levels.

Please replace the paragraph beginning at page 3, line ³⁰31 with the following rewritten paragraph: mjd 4/3/07

The present invention provides an improved voltage variable material ("VVM"). More specifically, the present invention provides an improved printed circuit board substrate, an improved device having circuit protection an improved data communications cable having circuit protection and a method for mass producing devices employing the VVM substrate of the present invention. The VVM substrate eliminates the need for an intermediate daughter or carrier board by impregnating conductive particles and possibly semiconductive and/or insulative particles

associated with known voltage variable materials into the varnish or epoxy resin associated with known printed circuit board substrates.

Please replace the paragraph beginning at page 6, line 1 with the following rewritten paragraph:

In an embodiment, the first electrode is a conductor of a cable and the second electrode is a shield for the cable. In an embodiment, at least one of the electrodes includes nickel plated copper.

Please replace the paragraph beginning at page 10, line ²⁵~~29~~ with the following rewritten paragraph: *mfr 4/3/07*

A further embodiment for the binder includes imbedding the conductive particles and alternatively semiconductive and/or insulative particles into a flexible circuit material. The most widely used flexible circuit material today is manufactured by Dupont Corporation and is called "Kapton". Kapton® is actually a polyimide film based material, which is resistant to heat, has dimensional stability and a low dielectric constant of 3.6. There are three variants of the Kapton® material, each of which may be impregnated to form the VVM substrate of the present invention. One Kapton® material includes an acrylic base adhesive but is not flame retardant. Another Kapton® material includes an acrylic base adhesive and is flame retardant. A third Kapton® material is adhesiveless.

Please replace the paragraph beginning at page 11, line ³~~7~~ with the following rewritten paragraph: *mfr 4/3/07*

The flex-circuit/VVM's are thin, high density, lightweight, flexible, and durable. They can be designed to meet a wide range of temperature and environmental extremes. The flex-circuit/VVM's work well with designs having fine line traces and high-density circuitry, and are more suited for dynamic applications and vibration conditions than the FR-4/VVM. The flex-circuit/VVM's are built to bend, fold, twist, and wrap in tight areas, over multiple times, benefitting designers faced with space restrictions. Typical applications for flex-circuit/VVM's

include satellites and avionic instruments, advanced scientific sensors, flexible heating elements, devices and sensors, medical equipment and robotics, security devices and controls.

Please replace the paragraph beginning at page 14, line ¹⁴~~17~~ with the following rewritten *mfd 4/3/07* paragraph:

A gap 22 is etched into the metal to form separate electrodes 24 and 26. First nickel layers 20 are plated onto the copper layers 14. The electrodes 24 and 26 include the copper layer 14 and the nickel layer 20 but can alternatively only have one conductive layer of any desired metal. It should be appreciated that upon an ESD event that triggers an on-state, current may flow laterally across the gap 22 from one electrode to another or flow through the thickness of the VVM substrate 12 from one electrode to another. The gap 22 and the thickness of the device 10 are sized to achieve the desired overvoltage protection.